

SEQUENCE LISTING

<110> BLUMENFELD, Marta  
BOUGUELERET, Lydie  
CHUMAKOV, Ilya  
COHEN, Daniel  
ESSIOUX, Laurent

<120> Genes, proteins and biallelic markers related to central nervous  
system disease.

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<141> 2001-04-13

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tcctccacac agtgctcacg 20

<210> 31  
<211> 983  
<212> DNA  
<213> Homo sapiens

<220>  
<221> misc\_feature  
<222> 14  
<223> n=a, g, c or t

<400> 31  
aaaaaaaaaa aaanaacaaa aacaaaacat gaaacaggaa gacaggaaaag atccatttga 60  
cagagtactt gacacaggag agagaagaaa tactcatgta tctgaaagta ttcaaagggg 120  
gagtgttagg agatgaatta atttaaaaaa tgagtaagag taaaatagtt taaagttaga 180  
ccctgaggaa ctccaggga gacaaagtaa cacaaggaa aagcaatggt agccactgcc 240  
taactttcct caggggtcatg tgtgcctcgc cataattatg taaacactta cattgttaaa 300  
acgaaattcg gagaactagt ttgagtaaag gggaaaagaa agtatgttat tcatgtcgga 360  
gttggaataa tgtgataggt tgaaattctc aatttcctaa ttggaaatca ttaagtcata 420  
ctgaaacctg aaaattcaag aactgacaac acaattgatg ttgagatatg gaatttggtg 480  
cctgatgaaa gattagaaaa ttattaaaag caatttcttc tgggtgggtgc tacaagatgg 540  
aagaagaaa gacagaaaagc tcttcataat caggtagacg ctttgacttt ttaagtggta 600  
tgcttatatg cctttaaaaa acaactcaat ttaaaagaaa attaagagat gctaacagcc 660  
gatttaaaga aaatttagta aaatattcaa ttgtataaag atacacaaaa tattggttat 720  
ctacatgata gcaaagatga attaagggat ggggataaaa ctcttctcaa taacacccaaa 780  
attaaaataa aacataattc atatatttag aaatatcatt acagaaatat gttgaacttg 840  
tattaacagc ctctcctcaa aggtagcatg gagaatcatg caaacttaat ttggagatac 900  
aaaaaaaaatt gagaatgtgt agtgtgttc ttaattcta actgtaatgg ctgaataata 960  
ttttgatcat gattgtgata cta 983

<210> 32  
<211> 450  
<212> DNA  
<213> Homo sapiens

<220>  
 <221> allele  
 <222> 298  
 <223> 99-15663-298 : polymorphic base C or T

<220>  
 <221> misc\_binding  
 <222> 275..321  
 <223> 99-15663-298.probe

<220>  
 <221> primer\_bind  
 <222> 279..297  
 <223> 99-15663-298.mis

<220>  
 <221> primer\_bind  
 <222> 299..317  
 <223> 99-15663-298.mis complement

<220>  
 <221> primer\_bind  
 <222> 1..18  
 <223> 99-15663.pu

<220>  
 <221> primer\_bind  
 <222> 430..450  
 <223> 99-15663.rp complement

<400> 32	
tcacaccttc ttctaaacgt gttgcttcaa tacgttgata ggtgaggaca cttaaaaatt	60
agactttata gaaatagggt tttttttggt tacatatata gttcttttgg tatcatatat	120
ttagcctctt tctaaaattt attttttgat actgaaggga gaaataggga gttattaatc	180
aacaggcatt aatttttagtc aagcaaaata aataagctgt agcgatctgc tctgtaacat	240
tgtacctaca gccaaacaatt atatgttggt cacttaaaaa tgtgttagat ctcatagyaa	300
ctcttcttac cacaataaag taaaaattct gaaacaataa gtgaatacct aaataatata	360
aacaaatata atattgtagt tttgggcact taataaatga cagcctcatt tctcaattag	420
agatcatcac aagttagaca gatgacgatg	450

<210> 33  
 <211> 476  
 <212> DNA  
 <213> Homo sapiens

<220>  
 <221> allele  
 <222> 398  
 <223> 99-15665-398 : polymorphic base A or G

<220>  
 <221> misc\_binding  
 <222> 375..421  
 <223> 99-15665-398.probe

<220>  
 <221> primer\_bind  
 <222> 379..397

<223> 99-15665-398.mis

<220>

<221> primer\_bind

<222> 399..417

<223> 99-15665-398.mis complement

<220>

<221> primer\_bind

<222> 1..20

<223> 99-15665.pu

<220>

<221> primer\_bind

<222> 458..476

<223> 99-15665.rp complement

<400> 33

cgtaaagtgtg	aaaagcatag	cctcttcttg	gaatgttaag	tataaatatc	tgaaatactg	60
ggcttgatat	gtcaacagga	gattgatgga	taaaaataga	atztatata	aaaaacaact	120
ggacatatta	gattgttaac	ttggaagaaa	gaccatattc	aaagaagaaa	acatagtgc	180
taatttcaaa	cattttaaagt	cttcctcttg	gaaacaaagg	aatatctttg	ttctaact	240
tcaaagaaca	gggttaaaaa	atagactcac	cacagagtaa	atgcacaatt	gacaatcgtg	300
aatgaattaa	aaaccaaaca	aaatattttg	tcagctttct	atctatgaaa	ctaagaaaca	360
ggcttcctac	taaggtaatg	aatgtaattc	acagagarca	ttcacgtata	agtttcattc	420
atgtttcaaa	tttcattgat	ttgatcaatg	ggttattcta	ataccctccc	ttattt	476

<210> 34

<211> 547

<212> DNA

<213> Homo sapiens

<220>

<221> allele

<222> 166

<223> 99-15672-166 : polymorphic base C or T

<220>

<221> misc\_binding

<222> 143..189

<223> 99-15672-166.probe

<220>

<221> primer\_bind

<222> 147..165

<223> 99-15672-166.mis

<220>

<221> primer\_bind

<222> 167..185

<223> 99-15672-166.mis complement

<220>

<221> primer\_bind

<222> 1..18

<223> 99-15672.pu

<220>

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<221> primer_bind
<222> 533..551
<223> 99-15672.rp complement

<400> 34
ccaataccat aactcctcta taggacatgg aagagtatta tatatgacaa atgattgcta      60
tgattattat tatcagtggt attattatcc taatcctaag taatccaata aaagaaaaat      120
acatctgtgc ctgtgcgtat gtgcacgtgt gtgcagtcaa atacaygttg agtaaaggta      180
aagtctagct gtatttaatc aacctacctg aatcctcagg aaaaaattct aaacctagtt      240
taaaacatgt aaactctaag ctctctcctt atagtcagtt agtagcagca catcttaaaa      300
tctggtgtga atattctctt agttctacat gagtctaact aaacagagga ttattcttag      360
gtgtttgaaa gagacatatg tgacactgct gttttgagaa caatttaagt gttgtcttgt      420
catgtacaga agttctcata ttactttaca taaatggttg cataattgtt ttatagtaaa      480
taatagactg tcaatatttc taggataact ccaaaacaaa atttcctaga mmacattttg      540
aaaaggg                                           547

<210> 35
<211> 502
<212> DNA
<213> Homo sapiens

<220>
<221> allele
<222> 185
<223> 99-15664-185 : polymorphic base G or T

<220>
<221> misc_binding
<222> 162..208
<223> 99-15664-185.probe

<220>
<221> primer_bind
<222> 166..184
<223> 99-15664-185.mis

<220>
<221> primer_bind
<222> 186..204
<223> 99-15664-185.mis complement

<220>
<221> primer_bind
<222> 1..19
<223> 99-15664.pu

<220>
<221> primer_bind
<222> 483..502
<223> 99-15664.rp complement

<220>
<221> misc_feature
<222> 54
<223> n=a, g, c or t

<400> 35
gtttaccatt agcactgtca tatttggtgtg acttgtcatt ctctacagcg gagnacgggc      60

```

tggcacgggg	cctgatgctg	acttgcacaa	gggaagcctc	ctgtctctga	cttccccagg	120
ataattcctg	gggaaagtgt	gctccctagt	gttaagagcg	gtttaatggc	tgagggggtt	180
cagckggctg	accaggcaga	gaaggagggt	gaatcacctc	tcagcactct	ccacttagac	240
tttgtgtggg	cgtcgggtgg	tcaaaccctc	taactagtgt	tattgcagat	ttggcattcc	300
agtgcaaaca	aaagacagaa	acacaatgtt	cacatgcttt	ccagagatca	cctggatatc	360
agatcatttg	attttcaagt	aagtcgaaac	cttggtggaa	atcattaact	atcctgttta	420
tgacaaaaaa	ataaaatccc	aaattttctc	tcttcatttc	ttacctgctt	taaaattgta	480
tccaaagcgt	graagtaaaa	ga				502

<210> 36

<211> 455

<212> DNA

<213> Homo sapiens

<220>

<221> allele

<222> 205

<223> 99-5919-215 : polymorphic base A or G

<220>

<221> misc\_binding

<222> 182..228

<223> 99-5919-215.probe

<220>

<221> primer\_bind

<222> 186..204

<223> 99-5919-215.mis

<220>

<221> primer\_bind

<222> 206..224

<223> 99-5919-215.mis complement

<220>

<221> primer\_bind

<222> 1..19

<223> 99-5919.pu

<220>

<221> primer\_bind

<222> 435..455

<223> 99-5919.rp complement

<400> 36

ctacagcaat	gcagatttca	attctgccat	tgaattceca	gacatattcg	tcattcccat	60
tttcatcccc	caccaccctg	ccattttctt	cgtgttaact	tgttttcctg	actcacagaa	120
atcacctttt	cctgtataca	tttttaggat	gtcagacttt	attctaata	tttctcctag	180
ttgcccccca	aaattgtatt	ctacrgtgtg	attttaaagc	tgaattttca	agatgatatt	240
tcatatctat	attttcacaa	gcttttcttc	tatgaatgtt	attgtcagct	gtcaggggtg	300
gagatgggtac	ttgatactac	attctttcca	agctgttgcc	tgaatcggtt	taagacaaag	360
tcattactag	gctgtaaaact	gttgctctgc	aaaattgagc	agcacgtatt	taaccactca	420
tacttcttag	ctctccaaca	ctttgagtca	ataga			455

<210> 37

<211> 450

<212> DNA

<213> Homo sapiens

<220>  
 <221> allele  
 <222> 157  
 <223> 99-5862-167 : polymorphic base C or T

<220>  
 <221> misc\_binding  
 <222> 134..180  
 <223> 99-5862-167.probe

<220>  
 <221> primer\_bind  
 <222> 138..156  
 <223> 99-5862-167.mis

<220>  
 <221> primer\_bind  
 <222> 158..176  
 <223> 99-5862-167.mis complement

<220>  
 <221> primer\_bind  
 <222> 1..20  
 <223> 99-5862.pu

<220>  
 <221> primer\_bind  
 <222> 430..450  
 <223> 99-5862.rp complement

<400> 37  
 aatcaaggta gagatgtatg agaaatagcc ggttaaagaa acagcattac tttcagacta 60  
 tctttttattt gaaatacacg tggggaaacc agaagggtgaa accccttagg agatggatat 120  
 aggatactaa aatctgagtt agaaaaattt gagcatyagc accttacgtg tcatgctaag 180  
 atagtgaatg agactgcaca ggaattgcat gcagtttaac ggaaaaagaa gtcgaaagat 240  
 aaattcctag aacactaaca ccgagttatg ggaggagaaa tatcctgcac aggtcactct 300  
 gggagacatg tcaattgttt agccaatatc catttaactc atctttcttc ctaatgaaaa 360  
 ccgaatttgg agaagcaggt agtgccctg gctagaaata tgaaccttcc cagcttctct 420  
 catgcactga actgacaaag ttcaggtctg 450

<210> 38  
 <211> 403  
 <212> DNA  
 <213> Homo sapiens

<220>  
 <221> allele  
 <222> 292  
 <223> 99-16032-292 : polymorphic base A or C

<220>  
 <221> misc\_binding  
 <222> 269..315  
 <223> 99-16032-292.probe

<220>  
 <221> primer\_bind

<222> 273..291  
<223> 99-16032-292.mis

<220>  
<221> primer\_bind  
<222> 293..311  
<223> 99-16032-292.mis complement

<220>  
<221> primer\_bind  
<222> 1..19  
<223> 99-16032.pu

<220>  
<221> primer\_bind  
<222> 384..403  
<223> 99-16032.rp complement

<400> 38  
gttggttacc cacttcttcc cccagctcc cccttctca cacagttcat gccacatgcc 60  
actctcctgg actactggaa atgcgtcagt ccactctggg ctcatcccat catcccccat 120  
gctgcaacct gagagagagt tgcaagttgc aaatctgata ttgtcaccac cactctccac 180  
actaaatccc tctaatacct ccccccttct ttttgataa attccttctg cttgcatagc 240  
cacgtgggtg gcttctatag catcacttca cactgtgggc acctgccttc tmctcactca 300  
ggaacttctc tccattgaag aagttcttct tccccatctc cagggctttc ccactgacag 360  
ttgtatctcc cccataccaa gccaggtgg tcattctc cca 403

<210> 39  
<211> 476  
<212> DNA  
<213> Homo sapiens

<220>  
<221> allele  
<222> 118  
<223> 99-16038-118 : polymorphic base A or G

<220>  
<221> misc\_binding  
<222> 95..141  
<223> 99-16038-118.probe

<220>  
<221> primer\_bind  
<222> 99..117  
<223> 99-16038-118.mis

<220>  
<221> primer\_bind  
<222> 119..137  
<223> 99-16038-118.mis complement

<220>  
<221> primer\_bind  
<222> 1..19  
<223> 99-16038.pu

<220>



<221> primer\_bind  
 <222> 456..476  
 <223> 99-16038.rp complement

<400> 39  
 gttgcttatt ctttctctct tctgcagggt ataaaggaat ctgaacacga ctgatatttt 60  
 ctttaatttt tagatccaga tatacattgg gtaaaatcta cttcataggt tttcaaarga 120  
 gcattcttct gagcaaatct gaaaactctc taaactctat tggatgtgta ctctttatct 180  
 ttatatgaat ttaaattctt ctagaagtta gataaaactg tggtaaagct acataatact 240  
 tttgacatat tttcaagcgt agacaaaactt caattaattt gtaagatata ggaagaaaat 300  
 ttttccagtt aaaatgtacc tcttggtttc tggagtgtta gcaaccattc acacttacag 360  
 ttcaaacagt gcaaccttgt aaaacatata taacttatga agagatcgat atctcttttt 420  
 ataaagcaaa caagtaaatt tttccctcaa tccatgattt atttttgtga agtggg 476

<210> 40  
 <211> 498  
 <212> DNA  
 <213> Homo sapiens

<220>  
 <221> allele  
 <222> 133  
 <223> 99-5897-143 : polymorphic base A or C

<220>  
 <221> misc\_binding  
 <222> 110..156  
 <223> 99-5897-143.probe

<220>  
 <221> primer\_bind  
 <222> 114..132  
 <223> 99-5897-143.mis

<220>  
 <221> primer\_bind  
 <222> 134..152  
 <223> 99-5897-143.mis complement

<220>  
 <221> primer\_bind  
 <222> 1..18  
 <223> 99-5897.pu

<220>  
 <221> primer\_bind  
 <222> 475..492  
 <223> 99-5897.rp complement

<400> 40  
 aaaagtgttt gccagtcttg tttcttacag agcacagaac tcagatgctc ttataaagat 60  
 acaggataaa tcacatcatt tctgctcca tcatcagaat attattatat gatttagatc 120  
 acttttttaa aamagaacat ggacttagta cagaacaaca gcaaaagcct ggggaaggag 180  
 aggagtgcac catgaggagt caatggggag cagaagccag tccatttgac tgatttggtt 240  
 cgtgtgcaaa ataattgcta aataattgca tatatgtgag actccgggta ttttcaaaac 300  
 cagctggcaa aattgtgtta ttctctaccc tctgctggct ttcacggggt ctctgttctc 360  
 tctccttttc ctccattctc ctcttaccct aattcctgac cactgtaate caataatcta 420  
 aggttttagg atttgatga ctaagggttac ccatggaatt gtttggaat gtagacctgt 480

aatggagagg ggagaaaa

498

<210> 41  
<211> 517  
<212> DNA  
<213> Homo sapiens

<220>  
<221> allele  
<222> 360  
<223> 99-13601-360 : polymorphic base A or G

<220>  
<221> misc\_binding  
<222> 337..383  
<223> 99-13601-360.probe

<220>  
<221> primer\_bind  
<222> 341..359  
<223> 99-13601-360.mis

<220>  
<221> primer\_bind  
<222> 361..379  
<223> 99-13601-360.mis complement

<220>  
<221> primer\_bind  
<222> 1..19  
<223> 99-13601.pu

<220>  
<221> primer\_bind  
<222> 500..517  
<223> 99-13601.rp complement

<400> 41  
gttttacttg acagttacca agaattgttt cgcatttaag aaaattatat ctttgatggg 60  
tccttcatta atgggtgcctg gatacccaat gcaacacacc tacatcaaac tgcatttgta 120  
actgttggat tcataatgat tctacctaag atgcaagcat acggcatcat tgtgccttgt 180  
tgtatggata tgcttgagaa gtcacatgct gaaatacata tattttaaat ttgacagtat 240  
ctcctacaat attttcctta tattatagta aggtattaca ttacagttta aaacttatga 300  
ctataagcag gtgatattat ctatgaattt catgtgaaat tagcaaaggg acagtctcar 360  
atgtttgctg tataaaagtgt atttgaagcc tgatagggtt gagaaacact cagctacagt 420  
aagtaaaaac agctctctta gtggttgccct tgttgagaag atcttgaaaa caagggtgaa 480  
aatacaaaaag aaactgtgtg gagtctacaa agatatt 517

<210> 42  
<211> 533  
<212> DNA  
<213> Homo sapiens

<220>  
<221> allele  
<222> 97  
<223> 99-13925-97 : polymorphic base A or G

<220>  
 <221> misc\_binding  
 <222> 74..120  
 <223> 99-13925-97.probe

<220>  
 <221> primer\_bind  
 <222> 78..96  
 <223> 99-13925-97.mis

<220>  
 <221> primer\_bind  
 <222> 98..116  
 <223> 99-13925-97.mis complement

<220>  
 <221> primer\_bind  
 <222> 1..20  
 <223> 99-13925.pu

<220>  
 <221> primer\_bind  
 <222> 513..533  
 <223> 99-13925.rp complement

<400> 42  
 catggaagta aaagcatatc ttcattataa gacttctaca caaattatca catctttact 60  
 tacagcagct gaaacctgga aacaactcta atgccrctca acagaggaat ggatggataa 120  
 agaaactgtg atgcagtgga atacgactca acgaagatga gactaaaaat aattatactg 180  
 agtaaaagaa tccaaacaaa atagagcaaa cactgtgccca tcctgtttat accttactcc 240  
 agtaaattgca aactaatata caatgaaaaa aattacttat ttgagaactg gggagaggaa 300  
 ggagagggaa aggggtagat aaagaaaaga ggagagatta aaaggagcat aagaaaacct 360  
 cagagaataa taggtttgtg gtaaacatta ccgtggtaat gtttttaggg tatattcaca 420  
 tgtaaaaact tatccaatta tacattttta atagtacag tttagtgtgt cagttatgcc 480  
 tctgtaaagt tgatttttaa aaaagtccta ttccaagtym acaatttcat ttg 533

<210> 43  
 <211> 480  
 <212> DNA  
 <213> Homo sapiens

<220>  
 <221> allele  
 <222> 201  
 <223> 99-13929-201 : polymorphic base A or C

<220>  
 <221> misc\_binding  
 <222> 178..224  
 <223> 99-13929-201.probe

<220>  
 <221> primer\_bind  
 <222> 182..200  
 <223> 99-13929-201.mis

<220>  
 <221> primer\_bind

<222> 202..220  
<223> 99-13929-201.mis complement

<220>  
<221> primer\_bind  
<222> 1..19  
<223> 99-13929.pu

<220>  
<221> primer\_bind  
<222> 460..480  
<223> 99-13929.rp complement

<400> 43  
gggagaatac taataatgga agcattactt ttatTTTTtC tataaattcc tctggaaata 60  
tgtatTTtctt atgtcctaag gttattaaca aaaagagaaa ataatttctg atttataatt 120  
cacttttcctt caaaaaataa taactcagtg tctagtaagg taaagcaaaa aaagttaaaa 180  
gaacccataa gtttatttTa maatacctac tcagaagcaa aactgacttt ctattaaaaa 240  
ttaaaaaaaa aagtttttctt attattgttt tgtttccttg tttttaggtg atgggattgt 300  
atttgcaact ctctggtcag taagtgataa aatgccattt ctatgcaccc acctggcctg 360  
tgtgactggg agaatctctc tttttattaa atgtgcttca agttttaaca actgactttt 420  
gttagtgata tgatttatct acccgtgact gtcaaacaac acagatgatt tgcatatctc 480

<210> 44  
<211> 477  
<212> DNA  
<213> Homo sapiens

<220>  
<221> allele  
<222> 108  
<223> 99-14021-108 : polymorphic base A or G

<220>  
<221> misc\_binding  
<222> 85..131  
<223> 99-14021-108.probe

<220>  
<221> primer\_bind  
<222> 89..107  
<223> 99-14021-108.mis

<220>  
<221> primer\_bind  
<222> 109..127  
<223> 99-14021-108.mis complement

<220>  
<221> primer\_bind  
<222> 1..18  
<223> 99-14021.pu

<220>  
<221> primer\_bind  
<222> 460..477  
<223> 99-14021.rp complement

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<400> 44
tttgttgtaa atcgccccctt ttctgcaaca cttgtggggtt agggaaaata attctaaagc      60
aagagcaaaag acagagttgg gagatcacca gtgagggttca attttcctc acattcactc      120
tgctccacac ctcagataat catgtgctta actgcgaaac ttgcttgaca attacagaac      180
actttctcac ccattactac cttgatcctc acaattctgt ggggtagtag gagcagatgc      240
tgaaattgcc atacgcaa atcagtgaaactg aagcttagag acctccagca ggggcagagg      300
gtcagcggaa actatcccag gggttcagcca acaagaaagt atattggaat cagagtatta      360
aaataagaat aataaaacca actaaaattt accgtgcttt ttatttccac tcagtgcac      420
caattcttaa cagtgtcagt gatggatccc tgtgccccag gggacagact tcttact      477

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<210> 45
<211> 475
<212> DNA
<213> Homo sapiens

```

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<220>
<221> allele
<222> 314
<223> 99-14359-314 : polymorphic base G or C

```

```

<220>
<221> misc_binding
<222> 291..337
<223> 99-14359-314.probe

```

```

<220>
<221> primer_bind
<222> 295..313
<223> 99-14359-314.mis

```

```

<220>
<221> primer_bind
<222> 315..333
<223> 99-14359-314.mis complement

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<220>
<221> primer_bind
<222> 1..18
<223> 99-14359.pu

```

```

<220>
<221> primer_bind
<222> 457..475
<223> 99-14359.rp complement

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<400> 45
ataaggggaat ggtgtgaggt gggaccagag gaggtgcac tgagaaagtg agagggggcaa      60
gacctcaggg gaagaaggga gggctgcacg gatgtctcag gcagagcagg cagcaccgga      120
aaaggtgggg gacactcctt ttggaccagc atataatttg gttaaagcct ctctgtttc      180
acctaataata taagcacatt tcaagataaa actactactt tattgtcatc aaatataaaa      240
gtaatttttt attcagggtt ttctaatact catctataaa ggcatttctt tcccacatgg      300
catgtgttac aggstgttta acttaaagca attgtaaaag aaaagcctga agaaataagt      360
ctacaacgat ttacatcgtg tttatttttg tgtcaaaata tatgttaaaa tatacattag      420
ctatactaag ggaatcaaga gaagatcata attgctctta tgacttggga tttag      475

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<210> 46
<211> 473
<212> DNA

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<213> Homo sapiens

<220>

<221> allele

<222> 316

<223> 99-14364-415 : polymorphic base C or T

<220>

<221> misc\_binding

<222> 293..339

<223> 99-14364-415.probe

<220>

<221> primer\_bind

<222> 297..315

<223> 99-14364-415.mis

<220>

<221> primer\_bind

<222> 317..335

<223> 99-14364-415.mis complement

<220>

<221> primer\_bind

<222> 1..19

<223> 99-14364.pu

<220>

<221> primer\_bind

<222> 453..473

<223> 99-14364.rp complement

<400> 46

gtgttttaaat	tcaacccagc	tataagatac	gaaatgatag	aattgctcta	gattctctat	60
tgggttaaata	aggagatatt	tgtgctattg	ccaataatac	atgctgtacc	tggataaacc	120
cctttgggca	agttgtgatg	caaatactca	agaaaatagg	ccacatagtt	acaacaggac	180
ttacctaat	ccccatggtc	atttggtga	ttcagtcagt	tgctttcaag	cctagggttct	240
tggtcaata	ttattacata	aactagaatt	ttcctattac	tattaatttt	actttgtatt	300
tttctttata	aacttygtac	ttattgcttg	tcaaatttca	gcagaagtac	aactcctgag	360
agaataatgc	tggctcagag	ttttgagatg	ataacccttg	tctatgaaac	tgatgaagtt	420
ggacttaaca	acgaacactc	cccacagaac	tcctgatgct	caaattgtggc	taa	473

<210> 47

<211> 502

<212> DNA

<213> Homo sapiens

<220>

<221> allele

<222> 99

<223> 99-15056-99 : polymorphic base C or T

<220>

<221> misc\_binding

<222> 76..122

<223> 99-15056-99.probe

<220>

<221> primer\_bind  
 <222> 80..98  
 <223> 99-15056-99.mis

<220>  
 <221> primer\_bind  
 <222> 100..118  
 <223> 99-15056-99.mis complement

<220>  
 <221> primer\_bind  
 <222> 1..18  
 <223> 99-15056.pu

<220>  
 <221> primer\_bind  
 <222> 482..502  
 <223> 99-15056.rp complement

<400> 47  
 caggaaactc acaagaagsc agatttcctt cgagcacctc ctgaataaag aggcaaaggc 60  
 cttcttaact cttacaattt acaagtggct atgagtgcyt ttatagttcc cataataatt 120  
 tctccacgta gacttcctaa ataataattt ctctgtttt atattctctg tgcttatggt 180  
 tatatcaaac aagttaccac ttaatcaaat gccgatttgc attgctcact atgtaacttt 240  
 aattttcttt gcctcttatt tttggatctt aattctaaaa ctgatgatc ataaattcat 300  
 ttaggaataa gcttgatgac tagccttctt ttgaaccctt ttgtgctcct cacaatattt 360  
 gtttcgatga aacagtgagc aacatttgat ctatgattgt taatagaaaa acaccaatgt 420  
 ctcaagttat tgtaaacata ggcataattg acctttgggt ctataaatat gtttggtggt 480  
 ccccaaaata cgtctccctt tt 502

<210> 48  
 <211> 494  
 <212> DNA  
 <213> Homo sapiens

<220>  
 <221> allele  
 <222> 412  
 <223> 99-15229-412 : polymorphic base A or G

<220>  
 <221> misc\_binding  
 <222> 389..435  
 <223> 99-15229-412.probe

<220>  
 <221> primer\_bind  
 <222> 393..411  
 <223> 99-15229-412.mis

<220>  
 <221> primer\_bind  
 <222> 413..431  
 <223> 99-15229-412.mis complement

<220>  
 <221> primer\_bind  
 <222> 1..20

<223> 99-15229.pu

<220>

<221> primer\_bind

<222> 476..494

<223> 99-15229.rp complement

<400> 48

ctgtcattga	gaaatgctac	caataatact	tagagaattt	gatacaactc	agtctgaaaa	60
agctaagatt	agcagaacag	agctgtctcc	aaatatattg	agaactattt	tatttaaggg	120
attggaccca	tttttgtatg	tagttccaga	ggagcagatg	gtgaccactg	tccaggcaga	180
tgtgtctcaa	tgtaaggaca	acatctgtaa	tattaataat	tagaatgtat	cctgtaattt	240
tctctctacc	cttggaacc	agtcgagatc	cagagtcttt	caactgggagg	cttaaagcct	300
agagcagcct	tggtgctaga	ggcggacagg	gataatgaac	taatcttgaa	ccaattcatc	360
catagcaatc	tcaatgcttt	cgtttagctct	tatagggtatt	taatacggcc	avaggaatga	420
aggtagtctt	gctgggttag	aagccctgcc	taccacaacc	cctacaccac	cccatccct	480
gcatagtctg	atgt					494

<210> 49

<211> 485

<212> DNA

<213> Homo sapiens

<220>

<221> allele

<222> 291

<223> 99-15232-291 : polymorphic base G or T

<220>

<221> misc\_binding

<222> 268..314

<223> 99-15232-291.probe

<220>

<221> primer\_bind

<222> 272..290

<223> 99-15232-291.mis

<220>

<221> primer\_bind

<222> 292..310

<223> 99-15232-291.mis complement

<220>

<221> primer\_bind

<222> 1..18

<223> 99-15232.pu

<220>

<221> primer\_bind

<222> 467..485

<223> 99-15232.rp complement

<400> 49

caatagaaca	ggctgctcct	ttataattat	taatcatagt	gtatattaat	tcatcatcac	60
atacgtggct	agaaaaaaat	ttagaacaaa	aagatatgtg	atatgtaaag	gcctacgata	120
attcagactt	ctttgaggag	agctttttat	ttattgttat	tcttatttta	tctcttgtca	180
atataaattg	agagaataaa	cagacaaaca	ttacaaatta	gtgattaatt	gcatttaaag	240



cctagttaag	actattttaag	actatttatgc	ataatacagg	aaaactacct	ktattatttta	300
tagtggggtgc	cttctgaagg	atctgaagga	gaatcagttc	tatgcctctc	tcctcattcc	360
caggaggtgc	ctggcattcc	ttggcttgta	gacgcatcac	cctaattctct	acctctgcct	420
tcacatgggtg	tcccctgtgt	gtgtgttttt	gccccatgtg	tctcctcttt	ttatatggat	480
gccag						485

<210> 50  
 <211> 464  
 <212> DNA  
 <213> Homo sapiens

<220>  
 <221> allele  
 <222> 347  
 <223> 99-15241-347 : polymorphic base A or G

<220>  
 <221> misc\_binding  
 <222> 324..370  
 <223> 99-15241-347.probe

<220>  
 <221> primer\_bind  
 <222> 328..346  
 <223> 99-15241-347.mis

<220>  
 <221> primer\_bind  
 <222> 348..366  
 <223> 99-15241-347.mis complement

<220>  
 <221> primer\_bind  
 <222> 1..19  
 <223> 99-15241.pu

<220>  
 <221> primer\_bind  
 <222> 444..464  
 <223> 99-15241.rp complement

<400> 50						
ggttatgggtt	gaaaatctct	gagttcttgt	acatacaaaa	atcttactgt	tgtcacagtt	60
gaatcttagt	ttagatgggt	ataggatttt	tattcaaaa	gcttttactc	cataagttta	120
aaaatattgt	tacattttcc	tcaagtatct	gatgttattg	atgagaagtt	taattcta	180
ttgactcttg	ttcccttgta	ggtactatct	gttttccagt	ttgggaagct	tacatttctt	240
aaaattcaca	acataataatt	tacatactac	acaattcttt	ttaaagtata	caattcaatg	300
catttagtat	gttttagtac	atataactta	aattatgtat	atacaaratc	tctttataat	360
atttgtagaa	tatgtagcat	attcacaaga	ttgttcaacc	atcaccactc	tctatttcca	420
gaatcttttc	ctccaaaaag	aaaccctgaa	cactatgatg	aata		464

<210> 51  
 <211> 550  
 <212> DNA  
 <213> Homo sapiens

<220>  
 <221> allele

<222> 196  
 <223> 99-15244-196 : polymorphic base A or G

<220>  
 <221> misc\_binding  
 <222> 173..219  
 <223> 99-15244-196.probe

<220>  
 <221> primer\_bind  
 <222> 177..195  
 <223> 99-15244-196.mis

<220>  
 <221> primer\_bind  
 <222> 197..215  
 <223> 99-15244-196.mis complement

<220>  
 <221> primer\_bind  
 <222> 1..20  
 <223> 99-15244.pu

<220>  
 <221> primer\_bind  
 <222> 532..550  
 <223> 99-15244.rp complement

<400> 51  
 ctgcttctgg ttatgttttc ctaattgcc aatggtaaa aatgagaata atcattgaaa 60  
 gagaaagcat aaagtagcaa aaatcctttc cagattaaaa aacgaagcaa agcatgtttc 120  
 ccaagtaata atactctcat cttcctccct aatcctttac cccactacca gaagaagagt 180  
 aaaatgtccg gatatrtrttg aaggtaaaga tttctccttt taataaaaatt agtcaccttg 240  
 tacacatcag tagatcttga gaatgaaaag cttttctagt acattcattt caacctataa 300  
 atgtttgact tttctctgtc attcatttac gacctgtgat cttttcattc cttttcagtt 360  
 agaatatatt tcaaattttt attgatattt tctatttaac ccatagggta tttggaaata 420  
 cattgtttta tttctaatat atttgctttt ttttctactt atttcttttt ttcttaattc 480  
 cacactggtc caaatatatt ctgcatatga tttaatattt taagttctgt agagactaac 540  
 cttgtgccct 550

<210> 52  
 <211> 452  
 <212> DNA  
 <213> Homo sapiens

<220>  
 <221> allele  
 <222> 404  
 <223> 99-15252-404 : polymorphic base C or T

<220>  
 <221> misc\_binding  
 <222> 381..427  
 <223> 99-15252-404.probe

<220>  
 <221> primer\_bind  
 <222> 385..403

<223> 99-15252-404.mis

<220>

<221> primer\_bind

<222> 405..423

<223> 99-15252-404.mis complement

<220>

<221> primer\_bind

<222> 1..18

<223> 99-15252.pu

<220>

<221> primer\_bind

<222> 433..452

<223> 99-15252.rp complement

<400> 52

atgggggcat	atagcaaccc	tttagaaaca	aaactacaaa	aggtaagctt	gtcttcttgc	60
atttcctttc	tcttactaca	tttaacatgg	gagggtttct	atgtctcaca	ttcaaataatt	120
ctcactcggg	ctgcctaatt	tttcctgat	tttccatcac	tctttatgaa	ggcttgctac	180
tttagaatac	acattttctt	aacagaagat	aataatcaga	agatgtctcc	caaataataag	240
tccaaattctt	tcctatcatg	ctgtgttctt	tggctctttt	gactttattt	gaagtcagcc	300
ttgaagggga	tagagatagg	ctgtatgaag	tccacgctga	gaagttttgc	cctgccctac	360
ttgtcctgta	atatttcatg	gatagcccag	tggtgattaa	accygtgtgt	acaggaataa	420
ccatgagaat	ttgttaaaaa	tataggctct	gg			452

<210> 53

<211> 477

<212> DNA

<213> Homo sapiens

<220>

<221> allele

<222> 382

<223> 99-15253-382 : polymorphic base C or T

<220>

<221> misc\_binding

<222> 359..405

<223> 99-15253-382.probe

<220>

<221> primer\_bind

<222> 363..381

<223> 99-15253-382.mis

<220>

<221> primer\_bind

<222> 383..401

<223> 99-15253-382.mis complement

<220>

<221> primer\_bind

<222> 1..19

<223> 99-15253.pu

<220>

<221> primer\_bind  
 <222> 459..477  
 <223> 99-15253.rp complement

```
<400> 53
aaaatcaatt ccccaacact cattttgtac gctaattttg taagatcctg aaaagtttca      60
ctattttatg gtttcatgtg ttacagatga aaaaaaaact agaattcaaa ttttctgagt      120
ttttttttac aatattttat gattacaaag ttagaagact aagaataaaa tggcctaatt      180
tccataatgt gagtggtaaa tgcagagcac tggcctaaag aaaatatttc aaaaaattag      240
tcatcttttc cttaattttt ttccaaccta tgatctgttg aatgagcatt ttgcatatat      300
aaataaataa attactttgt aaataatctt gactggtttc tgttgaccac agtaaccac      360
tgcacagcac agcctgtaat tyctatgaac ctagggaat gtatttaagt ttattttttg      420
attacacagg tcctcattgt gtaactaaac attgcataga atatgccagt gatgatg      477
```

<210> 54  
 <211> 456  
 <212> DNA  
 <213> Homo sapiens

<220>  
 <221> allele  
 <222> 392  
 <223> 99-15256-392 : polymorphic base C or T

<220>  
 <221> misc\_binding  
 <222> 369..415  
 <223> 99-15256-392.probe

<220>  
 <221> primer\_bind  
 <222> 373..391  
 <223> 99-15256-392.mis

<220>  
 <221> primer\_bind  
 <222> 393..411  
 <223> 99-15256-392.mis complement

<220>  
 <221> primer\_bind  
 <222> 1..18  
 <223> 99-15256.pu

<220>  
 <221> primer\_bind  
 <222> 439..456  
 <223> 99-15256.rp complement

```
<400> 54
cctctctatg atgcttccta ttaagcaatt ggggaaatgt aataaacaag gggttggtgag      60
catcttccct agtgagatgt ttttggaaga attggataat tgagtgaata atagtgagaa      120
actcctgtgt ctgatgttgc tccatgttgg aatgctttta tgttctcaga gaatgagtca      180
ctgagagcca attgtgatga tacacaatgg ttttaccag gttggatatg gtcctctgta      240
ctggtaccct ttaagtcagt ggcactaatc agtcagtcac tgtcatgctt tgtgttggtc      300
catcatatgg tatgccctct tagagaacat cctgattagt ccttagacat cttttcaatt      360
tgaacactgg ggctcctcat tcgggtaaaa aytatggaca gtcagtgaaa ctgttgcaat      420
ggccccctcat agcagattgg atctcaatgc actttg      456
```



<221> misc\_binding  
 <222> 409..455  
 <223> 99-15280-432.probe

<220>  
 <221> primer\_bind  
 <222> 413..431  
 <223> 99-15280-432.mis

<220>  
 <221> primer\_bind  
 <222> 433..451  
 <223> 99-15280-432.mis complement

<220>  
 <221> primer\_bind  
 <222> 1..18  
 <223> 99-15280.pu

<220>  
 <221> primer\_bind  
 <222> 521..541  
 <223> 99-15280.rp complement

<400> 56  
 atgtccatcc atcttgccca gagagagttt ctacaacact tcctctgcaa gccctttccc 60  
 tacttgcttc acctattgct ttcctctgtt acgttggtatt cccctcactg tttcttccaa 120  
 catcttccca cctcagagca tggacacttg ctgctctttc tgtgtcatga tgctgctcac 180  
 ttgtcccttt cttaatgtct cctccctgag ccaatcttct ccacccccac aacttacgca 240  
 cacttacatg tcatattttc cttcatagcc tttaacacca tttgaaatga tatatatttg 300  
 attgctttta aaattttctt gtccccccac taaatataaa cttcaggatg gcaagaatgt 360  
 agtccattat cttattttct cagcctccat acttttaaga aaataaattt tggttgtata 420  
 agccatccag tyagtggtag ttggttatag caccctagc aaaagaatac aaaaaaaggg 480  
 agaatgtttg caatcatctg tttgaggcta ggaattccca gagagggaaa caaggagtaa 540  
 t 541

<210> 57  
 <211> 514  
 <212> DNA  
 <213> Homo sapiens

<220>  
 <221> allele  
 <222> 428  
 <223> 99-15353-428 : polymorphic base C or T

<220>  
 <221> misc\_binding  
 <222> 405..451  
 <223> 99-15353-428.probe

<220>  
 <221> primer\_bind  
 <222> 409..427  
 <223> 99-15353-428.mis

<220>  
 <221> primer\_bind

<222> 429..447  
<223> 99-15353-428.mis complement

<220>  
<221> primer\_bind  
<222> 1..18  
<223> 99-15353.pu

<220>  
<221> primer\_bind  
<222> 495..514  
<223> 99-15353.rp complement

<400> 57  
tgggaatgga ggtagtagac gatgaggtct ccaccctctg actttgcaga gatgggcaag 60  
gccaaagtgtt ggaagggcctt aaacacacac cggagtattc tgtgagaacc agtggatttc 120  
agaggatggc aatgacacca cttgccttct gcctcaggag gataactgat ggccgtgtgt 180  
gggatgcact ggagagcaag agctggccttg caggagagacc agctggatga tttctttca 240  
tttattttat tcattcaaca cacattcatc tggggttcac tctgtgcca acactgggca 300  
tttccaaata gtccagatgg cagtaagcat ggttgtggca gtaggaatgg gaaggctggg 360  
aggggtatga gaggcattac aaacgggaag tgggagtggc accccagaaa agtctagttt 420  
aaggtgcyag tggatgtgtg catgtgtgcg cgggggtgtc tagagggtgg cgggcagctg 480  
gaaattgagg tcaagtgcctt aaagaacaac tcgt 514

<210> 58  
<211> 489  
<212> DNA  
<213> Homo sapiens

<220>  
<221> allele  
<222> 150  
<223> 99-15355-150 : polymorphic base C or T

<220>  
<221> misc\_binding  
<222> 127..173  
<223> 99-15355-150.probe

<220>  
<221> primer\_bind  
<222> 131..149  
<223> 99-15355-150.mis

<220>  
<221> primer\_bind  
<222> 151..169  
<223> 99-15355-150.mis complement

<220>  
<221> primer\_bind  
<222> 1..18  
<223> 99-15355.pu

<220>  
<221> primer\_bind  
<222> 471..489  
<223> 99-15355.rp complement

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<400> 58
taacttctcc gtctctcctt cttageccat atgtcaataa tgactgaaag tattcatttc      60
catcttttaa ctgcctattc cagccacctc ccacctccat ctctttcctt ctaagttttc      120
ttcatcttct actttgggca aaaggaaaty gatgtgtcag acaggcctag ttttgaattc      180
tggatctgct agcacttctc tgtgtgtcct tggttatatg atatagtctt aaaccttaat      240
gttcttgccct gtaaaatggg gataataaaa acctcttaac agtgggttgtt tcatgcagct      300
ttcattacaa acttctctcat tcaaaatctt caatgatttc catttttcac aaaatgaaat      360
tcaaaatttc tgtagattat tgagacaagt cccctactct tcacctaaat ttatctttta      420
tttattctct catcattatc aacaactact aggctttgtt gccttgactc cagaggcaaa      480
aatcttatc                                         489

```

```

<210> 59
<211> 468
<212> DNA
<213> Homo sapiens

```

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<220>
<221> allele
<222> 227
<223> 99-15685-227 : polymorphic base A or G

```

```

<220>
<221> misc_binding
<222> 204..250
<223> 99-15685-227.probe

```

```

<220>
<221> primer_bind
<222> 208..226
<223> 99-15685-227.mis

```

```

<220>
<221> primer_bind
<222> 228..246
<223> 99-15685-227.mis complement

```

```

<220>
<221> primer_bind
<222> 1..18
<223> 99-15685.pu

```

```

<220>
<221> primer_bind
<222> 449..468
<223> 99-15685.rp complement

```

```

<400> 59
aaacaaaggc acgcagagga taaggcatga gtccaaccag cagcatctcc ctcccgaatg      60
agtacagaaa tgatcaatac tcgaagagaa aaagatgctt tcagtgtgct ttacctgaaa      120
acttccttaa gcagcttcac tttattgtca ggatatcgct ttgtgtttgt atcatctaag      180
aaagctcgcg catatgctag tgggccagca ttgacctaga caaagarcaa agattttcag      240
ttccactagg aagaaaatca ccatgaccat ctgctcagtt tcagtttgca ggcactaaaa      300
agcccgttcg cgtgagctac tcacaatccc tgccttccag gaacttaagc ccaaaaagaa      360
accacaaagc tcactctgtt gcacaccact tgattccatg atctcagcca tcttcagggc      420
acttgtagtg atgggtttact ttatgtaaga agaaaccaat gcttggaa                    468

```

```

<210> 60

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```
<220>  
<221> misc_binding  
<222> 287..333
```

<223> 99-15703-310.probe

<220>

<221> primer\_bind

<222> 291..309

<223> 99-15703-310.mis

<220>

<221> primer\_bind

<222> 311..329

<223> 99-15703-310.mis complement

<220>

<221> primer\_bind

<222> 1..18

<223> 99-15703.pu

<220>

<221> primer\_bind

<222> 452..472

<223> 99-15703.rp complement

<400> 61

agggcttttg	ggtataggcg	ctgaatttct	tctaaagcta	acctgactct	gatgctagaa	60
gagcccat	tt aaggaaagaa	aaacactttt	cattgctcga	tcaaagttca	tccat	120
aaaagacatc	aaaccaagt	tgtgacacca	ggcaccata	tccttcctct	ttcccaccac	180
cccacccctg	tcctcagggc	agtgacagt	aagcctggtg	caggtcccgc	tgctgctttt	240
tgaagtggca	catgctttat	tttcttaaaa	agaagtgaga	gacaacctat	gctacaggag	300
gctctgtgay	gtttttctga	agtacaacc	cttgctctgc	cagggcagct	gtaaagggtc	360
taaagagccc	tgagaaagga	gagaggattt	gggaagccga	ggaggcagag	ggagaccaca	420
tagcacatgg	agttctgaaa	gggcccaagt	ggagacagaa	aacgagtc	gt	472

<210> 62

<211> 470

<212> DNA

<213> Homo sapiens

<220>

<221> allele

<222> 400

<223> 99-15870-400 : polymorphic base A or G

<220>

<221> misc\_binding

<222> 377..423

<223> 99-15870-400.probe

<220>

<221> primer\_bind

<222> 381..399

<223> 99-15870-400.mis

<220>

<221> primer\_bind

<222> 401..419

<223> 99-15870-400.mis complement

<220>

<221> primer\_bind  
 <222> 1..21  
 <223> 99-15870.pu

<220>  
 <221> primer\_bind  
 <222> 452..470  
 <223> 99-15870.rp complement

<400> 62  
 gctcaaatgt atcaaacaca gtttctgtgg tcaagttcct ctccttttct aaatttgctt 60  
 agaggatctc ataaaacgta actcctctga caagggaacc attttagcac caacactgca 120  
 aaagcttctg tggttcctaag ggaaagatcc tttcctgaat taaatttaac ctcttttagta 180  
 ctcccatTTa gccacctgat aaatccactt gagctatctt ttgggaagag agaggtatct 240  
 gggaacaata acacttcctt tttgaacagt ttaataaagc tttgtgagat ttcaagatga 300  
 aagataatgt gtaatgctga tagtgccctc caaggctctg cattcatgga tccaattacg 360  
 ttttttgTca tggtaaaagc cacagtggat atattaaatr agagtgtggg ttaagaatga 420  
 aggccagga gtctggagat ctggtttcta aggctgactt cacttctgct 470

<210> 63  
 <211> 469  
 <212> DNA  
 <213> Homo sapiens

<220>  
 <221> allele  
 <222> 287  
 <223> 99-16321-287 : polymorphic base A or C

<220>  
 <221> misc\_binding  
 <222> 264..310  
 <223> 99-16321-287.probe

<220>  
 <221> primer\_bind  
 <222> 268..286  
 <223> 99-16321-287.mis

<220>  
 <221> primer\_bind  
 <222> 288..306  
 <223> 99-16321-287.mis complement

<220>  
 <221> primer\_bind  
 <222> 1..20  
 <223> 99-16321.pu

<220>  
 <221> primer\_bind  
 <222> 451..469  
 <223> 99-16321.rp complement

<400> 63  
 ctttagaat atcccttctg atttgaacaa cattttgcta tccaagttct gtctactttt 60  
 ttaacaagtt cttgctccgt gtgtctcctt ttgcttgTtc tcaagtaagg gagtaacagg 120  
 gataaactcc cactccttgg taaatctttc tatcattttt ggaaatctca tccattgtag 180

taaatgctct	taaatcttca	tcttcaggcc	gtgacttcca	tctagcctcc	attcacgttt	240
ccgggtttat	gtctgcaatg	agcattccgt	ggctctacat	agatgcmcca	ccatacctag	300
aacccatgta	tcccaaactc	aattctttct	ttcccaggac	attacttcct	gcacttcctt	360
agtctatcaa	tggcactggt	attctcttga	ccatctagac	ttgaaatttt	ggggtttgga	420
ctcctctgct	tcccttgctt	tatatgtaat	cagacatcaa	gtctcaatc		469

<210> 64  
 <211> 544  
 <212> DNA  
 <213> Homo sapiens

<220>  
 <221> allele  
 <222> 194  
 <223> 99-16333-194 : polymorphic base A or G

<220>  
 <221> misc\_binding  
 <222> 171..217  
 <223> 99-16333-194.probe

<220>  
 <221> primer\_bind  
 <222> 175..193  
 <223> 99-16333-194.mis

<220>  
 <221> primer\_bind  
 <222> 195..213  
 <223> 99-16333-194.mis complement

<220>  
 <221> primer\_bind  
 <222> 1..19  
 <223> 99-16333.pu

<220>  
 <221> primer\_bind  
 <222> 524..544  
 <223> 99-16333.rp complement

<400> 64	
atttaccctg	tctgccttgc aatttcagga tcagtataca tcaaatacaag tgaacaaccc 60
agggaattct	gccgttacct tttagaaaca gaataaatat taacagagct ttacttcttt 120
ccaccaagga	ggactatatg ttaatacagt aattttacact ggaaaaaata taaatgaaag 180
ggttttagaac	ctcrtactt taataataac ataattcctc ctagaacatt cttttcactt 240
gtgattctca	aagcactttg catttcccag ctattggcag ggctggaatt aggatcaaag 300
tatcactaaa	tggtaggtga aataaatgtg aagctgattt tcaggagtac aggaatggag 360
tcacagggcg	acttttaaagt taagaatctg ttggagcagc tgccaataaa tcaaggccca 420
aaggagaaaag	ttctttggaa accttgaaat attgtataca tttagataat tattgttgtt 480
gtcaatgtta	acgaaaaaag caataaatca gggagatggc actgatgagt gaggagaaat 540
agac	
	544

<210> 65  
 <211> 475  
 <212> DNA  
 <213> Homo sapiens

<220>  
 <221> allele  
 <222> 149  
 <223> 99-5873-159 : polymorphic base C or T

<220>  
 <221> misc\_binding  
 <222> 126..172  
 <223> 99-5873-159.probe

<220>  
 <221> primer\_bind  
 <222> 130..148  
 <223> 99-5873-159.mis

<220>  
 <221> primer\_bind  
 <222> 150..168  
 <223> 99-5873-159.mis complement

<220>  
 <221> primer\_bind  
 <222> 1..18  
 <223> 99-5873.pu

<220>  
 <221> primer\_bind  
 <222> 457..475  
 <223> 99-5873.rp complement

<220>  
 <221> misc\_feature  
 <222> 409  
 <223> n=a, g, c or t

<400> 65									
gcgtaacaat	aagcagggtt	agtcgccaca	aaacttgaga	taagaggaaa	actaaaaaag				60
tctaatagaa	tcagtagtct	taaaaagatg	acatgatagg	aagagaagtg	ttaaaaaaga				120
aaaaaaatag	gtatgaaaga	gagtaacaya	taccggaaaa	gggataaaat	acatcctttg				180
aaagaacaaa	gagttattca	aattgaattc	ttaatgaatt	acttaaacag	cagattagat				240
attgttaaaa	agaggaatag	ggaattaaat	gatatatgtg	atgatattac	ctagtgtaac				300
catcaaagat	gtattgcaaa	tgataaagaa	aaaaatgctg	ccatggcaat	attaatatca				360
taaaaatata	ctttaagaag	taaataaatg	caactaggaa	tagagaaans	dvhatgaata				420
ataatatatta	amaaavvgt	taacaagtat	acataagatg	taatatccta	aaccg				475

<210> 66  
 <211> 511  
 <212> DNA  
 <213> Homo sapiens

<220>  
 <221> allele  
 <222> 49  
 <223> 99-5912-49 : polymorphic base A or G

<220>  
 <221> misc\_binding  
 <222> 26..72

<223> 99-5912-49.probe

<220>

<221> primer\_bind

<222> 30..48

<223> 99-5912-49.mis

<220>

<221> primer\_bind

<222> 50..68

<223> 99-5912-49.mis complement

<220>

<221> primer\_bind

<222> 11..31

<223> 99-5912.pu

<220>

<221> primer\_bind

<222> 494..511

<223> 99-5912.rp complement

<400> 66

aaatataata	gtcaaatacat	gttaccatta	ggacacatta	aaaatgtcra	attaccttgg	60
gaccttatat	gaacatatta	agataataat	gatagtgttc	agtgcaatat	tcagatcaat	120
agtttaaacc	caaaatattt	ataccttcag	attagatgta	tgcaaatagca	ttgattcatg	180
tgtcttttat	ctgttggtta	catttgagaga	aatatttgag	aaatatttca	aaatgggaatt	240
tatataaatt	taaacacata	atgggttttat	gtaaaaatat	tgctaaatta	cattttcccc	300
ttaattctta	tttcttgga	acgtgcctta	gtcgtgaaa	tattcataca	ttaacacaat	360
gaaagaagt	aaccttacta	ggctttgact	atcagggttg	ctgttggttt	ttgactattg	420
tgaaactata	gcctgatttc	taaatcagga	agaaacgtgt	attgttggtta	atatggacac	480
atgacatatt	tgtctgcctg	acttttgatc	c			511

<210> 67

<211> 485

<212> DNA

<213> Homo sapiens

<220>

<221> allele

<222> 210

<223> 99-6012-220 : polymorphic base G or T

<220>

<221> misc\_binding

<222> 187..233

<223> 99-6012-220.probe

<220>

<221> primer\_bind

<222> 191..209

<223> 99-6012-220.mis

<220>

<221> primer\_bind

<222> 211..229

<223> 99-6012-220.mis complement

<220>  
 <221> primer\_bind  
 <222> 1..19  
 <223> 99-6012.pu

<220>  
 <221> primer\_bind  
 <222> 467..485  
 <223> 99-6012.rp complement

<400> 67  
 gtcttgactt gttttcctga ggggtccaggt tgatttgcat gctcttgagg aaatatacac 60  
 gtcttctcag ttttaataat tgactgacag ccctgtggtt tctcaggacc cagtgaagctg 120  
 ctgctcccag gtcagtctgc aaaggatgct gggtcccttg tgggtctcatc aagggtgagga 180  
 atttcctgat tttagagatt tctttatcck aattttgaag actttctttc acatttctag 240  
 gcataaaaaa atgtacagca ctctactgct tgtttaacaa atggatagtg atatatctgc 300  
 caacaaagac cacatggagt atttcattga ctatcagaga agtttcctcg aaaggcacca 360  
 tacttagtgt tttatttcca tgagtgaagg aaaattagtt atttgaagta tttggctgtc 420  
 tttagttggt tctaaagtag tgctgatttt atatgcccat aatattcata tatacaccca 480  
 ggata 485

<210> 68  
 <211> 529  
 <212> DNA  
 <213> Homo sapiens

<220>  
 <221> allele  
 <222> 89  
 <223> 99-6080-99 : polymorphic base C or T

<220>  
 <221> misc\_binding  
 <222> 66..112  
 <223> 99-6080-99.probe

<220>  
 <221> primer\_bind  
 <222> 70..88  
 <223> 99-6080-99.mis

<220>  
 <221> primer\_bind  
 <222> 90..108  
 <223> 99-6080-99.mis complement

<220>  
 <221> primer\_bind  
 <222> 1..18  
 <223> 99-6080.pu

<220>  
 <221> primer\_bind  
 <222> 509..529  
 <223> 99-6080.rp complement

<400> 68  
 aaatgtgtcc ctgaaacca tgctatattc aactgaatat tctaattgtct ttgattacaa 60

agccatctct	agcaatttaa	tacaattayg	aaatggaaaa	gttggcaa	gcaaaacaat	120
agctcgtgtt	caaggtatgt	ctttattagg	ggaagtttat	cgaaacagat	gtttatgcta	180
tttcctataa	actagattct	aaaatatatt	attctataaa	gatgtattga	ctttatatga	240
aaaaattatt	gaaaaatcta	caagatgggtg	aaactcttta	gaactatatt	tctattacaa	300
gtttattttt	aatttcaaaa	atgtactgca	taaatgcagc	aaaaccttta	ttgtcacata	360
ttaaaacatg	tacattattg	tgtgcaaatt	aaaatttcac	taccttaaac	caaaaagtga	420
gttggccaga	tagtaaataa	tttaggctct	aaggctgaaa	agcgcttgta	ttaattactc	480
aactccacca	ctattttgcc	aaagcagtca	cagacaatac	gcattcaca		529

<210> 69

<211> 489

<212> DNA

<213> Homo sapiens

<220>

<221> allele

<222> 156

<223> 99-7308-157 : polymorphic base C or T

<220>

<221> misc\_binding

<222> 133..179

<223> 99-7308-157.probe

<220>

<221> primer\_bind

<222> 137..155

<223> 99-7308-157.mis

<220>

<221> primer\_bind

<222> 157..175

<223> 99-7308-157.mis complement

<220>

<221> primer\_bind

<222> 1..18

<223> 99-7308.pu

<220>

<221> primer\_bind

<222> 469..489

<223> 99-7308.rp complement

<400> 69

tgtggtctgg	atatggtgra	ctgtccttca	cacacagatg	tgggaagcca	tgatcatcag	60
ttgcattatt	cctgaggggc	aatgcattcc	agttacatag	aaccagtttc	tacgtttcag	120
ggtatatgta	ttcatggtga	caaatttatt	cacatyttaa	gtaattttta	gtaattcaca	180
ttttaagtaa	ttttcctgaa	tgtgcctcat	tggcttctgt	gcctcttcag	aaaagatgaa	240
ctaaacactg	gcatatgtgt	tcagatttca	acattccgtt	gttttcattg	tggtataattt	300
ctgtcccata	tttttgtgta	aagttagaca	ataaagtgtt	aatattctgg	cgtcggcaca	360
ttttctttcc	tgataaataa	caattcacat	atctttttta	aatatcagag	aatatagtaa	420
ccaatttcca	attctttttt	caccatgtat	ctattggagt	tttaaaatga	ctaatactaa	480
ggcaactat						489

<210> 70

<211> 18

<212> DNA



<213> Artificial Sequence

<220>

<223> sequencing oligonucleotide PrimerPU

<400> 70

tgtaaaacga cggccagt

18

<210> 71

<211> 18

<212> DNA

<213> Artificial Sequence

<220>

<223> sequencing oligonucleotide PrimerRP

<400> 71

caggaaacag ctatgacc

18